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ABSTRACT

The purpose of this study was to examine the effect of self-monitoring on classroom participation. Twenty-four male and twenty-four female sixth-grade students were randomly assigned to four treatment conditions: (1) self-monitoring participation; (2) self-monitoring non-participation; (3) teacher request; and (4) control procedure. Students in group I increased their classroom participation during the treatment and posttreatment phases of the experiment, while students in the other three groups did not. More students in group I enjoyed the task and felt it was helpful to them than did students in group II. (Author)

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SELF-MONITORING TO INCREASE CLASSROOM PARTICIPATION BEHAVIOR

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SELF-MONITORING TO INCREASE CLASSROOM PARTICIPATION BEHAVIOR

Abstract

The purpose of this study was to examine the effect of self-monitoring on classroom participation. Twenty-four male and 24 female sixth-grade students were randomly assigned to four treatment conditions: (a) self-monitoring participation, (b) self-monitoring nonparticipation, (c) teacher request, and (d) control procedure. Students in the group self-monitoring participation increased their classroom participation during the treatment and posttreatment phases of the experiment, while students in the other three groups did not. More students in the group self-monitoring participation enjoyed the task and felt it was helpful to them than did students in the group self-monitoring nonparticipation.

SELF-MONITORING TO INCREASE CLASSROOM

PARTICIPATION BEHAVIOR

A growing body of knowledge supports self-monitoring as a behavior change technique (Kanfer, 1970; Watson & Tharp, 1972). Originally employed by therapists and researchers in the preintervention assessment of target behavior response rates, self-monitoring is now viewed as a reactive process that can alter behavior without a contingency between the behavior and some external source of reinforcement (Kanfer, 1970; McFall, 1970). The basic parameters contributing to this process are still under investigation, but it is speculated that internal, cognitive reinforcement plays a significant role (Bandura & Perloff, 1967; Kanfer, 1971).

Although much of the self-monitoring research has been carried out in clinical and laboratory environments, the results of recent studies support the efficacy of this procedure in educational settings. Several case studies provide evidence that students can and will use self-monitoring to decrease inappropriate classroom behavior. Kunzelmann (1970), for instance, found that a 7-year-old boy was able to eliminate his classroom whining behavior by self-recording instances of whining. Broden, Hall, and Mitts (1971) reported that an eighth-grade boy used self-monitoring to reduce his "talking without permission" behavior.

Self-monitoring has also been found effective as a means of increasing appropriate classroom behavior. In a second experiment by Broden, Hall, and Mitts (1971), an eighth-grade girl who had sought academic assistance from her teacher was asked to self-monitor studying behavior. Study

behavior during class time increased from an average of 30% during the baseline period to an average of 80% during the self-recording period. Employing students in a college psychology class as subjects, Johnson and White (1971) compared self-monitoring of studying behavior to an active control group and an inactive control group. Those students who self-recorded studying behavior achieved higher grades at the end of the academic term than did students in the other two groups. Mahoney, Moore, Wade, and Moura (1973) found that college students who self-monitored correct responses while reviewing for the Graduate Record Examination spent more time reviewing and had a higher rate of accuracy on sample quantitative problems than did subjects in two control groups.

Nonparticipation in classroom discussion is frequently cited by teachers as a reason some students are unable to assimilate the material being discussed. Gottman and McFall (1972) examined the effects of self-monitoring techniques on class participation. Seventeen potential high school dropouts in a special-education program were assigned to two experimental groups. Eight students recorded each time they took part in the class discussion during a 5-day period, while the remaining nine students recorded each time they wanted to talk but for some reason did not. At the end of the 5-day period, the two groups reversed their self-monitoring assignments, with the first group recording instances of nonparticipation and the second group recording instances of participation. The reversal of the two self-monitoring instructions resulted in a definite crossover effect with both groups increasing their verbal participation when instructed to monitor talking and decreasing their verbal participation when instructed to monitor nontalking.

The purpose of the present study was to examine the effect of self-monitoring as a means of increasing the classroom participation behavior of elementary school children. This study differed from the Gottman and McFall study in the following ways:

1. Students from six sixth-grade classrooms participated as subjects rather than high school students in a single special-education class for potential dropouts.

2. The self-monitoring treatments were administered by experimental counselors rather than by the classroom teacher.

3. An active control group which received a request from the teacher to participate more frequently and a no-treatment control group were included in the present study.

4. Other than knowing who the students in the active control group were, participating teachers were not informed of treatment assignments.

Method

Subjects

Subjects for this study were 24 male and 24 female sixth-grade students from six classrooms in a California public school system. Six teachers participating in the study were asked to select four males and four females in their classes who least often volunteered to participate in classroom interaction. Three of the classrooms were housed in one school with a philosophy and physical structure ("pod" system) that lent itself to a flexible, less structured atmosphere for learning. The other three classrooms were housed in two schools with traditional, more structured atmospheres for learning. All three schools were located in predominately lower-middle class residential areas.

Data Collection

Four male graduate students in education were assigned as observers to the six participating classrooms, two observing one classroom each and two observing two classrooms each. Several days prior to actual data collection, the observers were casually introduced to the students in each class as student teachers who were observing teaching techniques. Observers recorded instances of voluntary participation behaviors on the part of students included in the study. Voluntary participation behavior was defined as any student-initiated attempt to engage in class-related, verbal interaction that involved the teacher. The following specific behaviors were operationally defined as voluntary participation behaviors and were recorded by the observers: (a) raising a hand to gain permission from the teacher to speak, (b) speaking out without permission during a free-flowing classroom discussion which involved the teacher, and (c) approaching the teacher in the classroom to engage in one-to-one conversation.

A 30-minute period was set aside daily for class discussion in each of the six participating classes. This did not represent a departure from normal routine for any of the six classes, except that the half hour set aside for discussion was fixed rather than variable during the course of the experiment. Students were given independent work to carry out at their desks in those instances where the class discussion ended before the 30-minute observation period was completed. Observations were made for the 4 days preceding treatment, the 4 days during treatment, and the 4 days following treatment.

Reliability data was collected by having observers jointly record target behavior for eight subjects during a one-half hour observation

period. Pearson product-moment correlation coefficients were computed between scores for Observers 1 and 2, Observers 1 and 3, and Observers 1 and 4 and were found to be .90, .87, and .96, respectively. The correlation coefficient for Observers 2 and 3 was .97. Due to experimenter error, reliability ratios were not obtained between Observer 4 and Observers 2 and 3.

Subjects in the two self-monitoring treatments also completed a questionnaire on the day following the final observation period. The questionnaire was designed to assess the subjects' attitudes toward the task of self-monitoring and included the following items:

1. How did you feel about recording the things your counselor asked you to record?

liked it a lot	liked it a little	no opinion	disliked it a little	disliked it a lot

2. Do you feel that recording the things you were asked to record helped you to participate more in classes this past week?

helped a lot	helped some	no help at all

3. Would you be willing to keep a record like this again in the future if you were asked to?

yes no

Treatments

One male and one female subject from each of the six classrooms were randomly assigned to the following four treatment conditions: (a) self-monitoring participation, (b) self-monitoring nonparticipation, (c) teacher request, and (d) control procedure.

Self-monitoring participation. Two male graduate students in counseling psychology, who served as the experimental counselors, each met individually during the treatment phase of the experiment with the six male and six female subjects assigned to this condition. On the first day of the treatment phase, the counselors met with individual subjects for approximately 20 minutes at the beginning of the day. The first 10 minutes of the session were used as a get-acquainted period and the last 10 minutes for training in self-monitoring. During the training period, the counselor: (a) explained the purpose of self-monitoring and the mechanics of the process, (b) obtained the student's verbal commitment to record every time the student raised his/her hand to participate in a class discussion, participated in class discussion without a directive from the teacher to respond, or approached the teacher to speak about a class-related topic, (c) gave the student a 3 x 5 card designed for the study to aid in self-monitoring, and (d) answered any questions the students had regarding what they were being asked to do. To insure intercounselor treatment reliability, the experimental counselors role played and discussed these procedures during two 1-hour training sessions prior to the first meeting with subjects in this treatment.

At the end of the first day and each of the remaining days of the treatment phase, the counselors met individually with subjects in this group for 5 minutes to collect the used tally cards and to provide subjects with new ones for the following day. The counselors were instructed to answer any questions the students had, short of informing them they were in a study. They were also instructed to avoid verbal reinforcement for the number of tallies on the card while encouraging students to continue the process of recording voluntary participation behavior.

Self-monitoring nonparticipation. This treatment was essentially the same as the self-monitoring participation treatment except that subjects were asked to record every occasion when they thought of a question or comment they wanted to make during class discussion or to the teacher individually but did not for some reason, rather than recording instances of actual participation.

Teacher request. The six classroom teachers cooperating in the study met individually with subjects in this group at the beginning of the experimental phase. The teachers were instructed to encourage students to (a) ask questions during class discussions, (b) contribute ideas to the class discussion, and (c) approach their teacher individually if they preferred not to ask a question or make a contribution in front of the class. The purpose of including this procedure in the experimental design was to provide for a comparison between the hypothesized self-monitoring effects and a simple request by the teacher for increased participation.

Control procedure. No attempt was made by either the experimental counselors or the teachers involved in the study to discuss class participation with subjects assigned to this group. Normal guidance services of the three participating schools were available to these and all subjects throughout the course of the experiment.

Results

A trend analysis of variance (Edwards, 1968) was used to analyze the data for this study. The trend analysis included a two-level categorizing factor, sex of subject, as well as a four-level treatment factor and a three-level trial factor. Table 1 is a summary of this

analysis. The results indicate that significant main effects were found for treatment and for trials as well as for the interaction of these two factors.

Insert Table 1 and Figure 1 about here

The means for the four treatment groups across the three observation periods are presented in Figure 1. Combined means for the four groups actually declined across the three trials (pretreatment = 1.610, treatment = 1.334, posttreatment = 0.999), thus accounting for the significant F ratio for the trials factor. When the means for the four treatment groups are considered independent of trials, the mean for the self-monitoring participation group (1.982) is considerably higher than the other three (self-monitoring nonparticipation = 1.341, teacher request = 0.919, control = 1.016), accounting for the significant treatment effect. Data in Figure 1 also helps to account for the interaction effect between the treatment and trial factors. The mean for subjects in the self-monitoring participation treatment increased during the treatment period and dropped only slightly during the posttreatment period. The means for the other three groups actually declined during the last two observation periods.

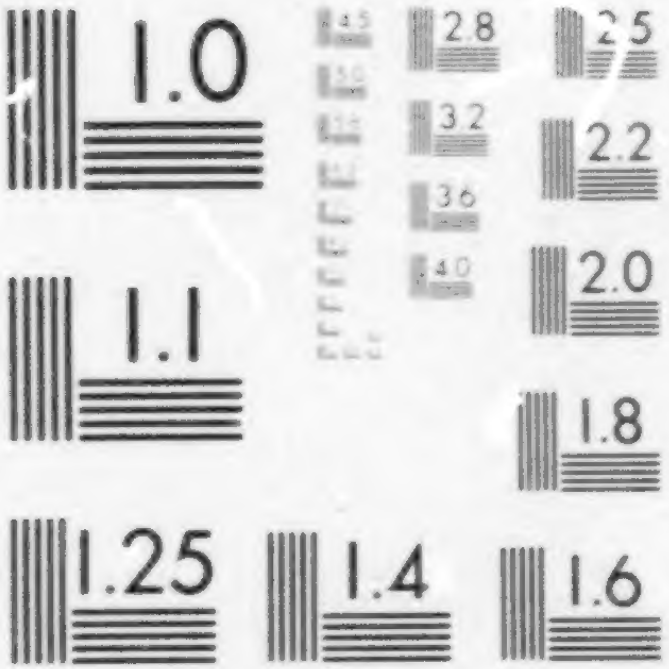
Discussion

The results of this study provide further evidence that self-monitoring is an effective behavior change technique. More specifically, these results suggest that when students self-monitor participation behaviors, they tend to increase their classroom participation. The rate of

classroom participation by students who received a request from the teacher to participate more and those who self-monitored nonparticipation did not differ significantly from the response rate of a control group.

The fact that the response rate for most subjects actually declined during the course of the experiment can be attributed at least in part to changing contingencies in the classroom environment over the 12 days of observation. Teachers were careful to exclude interfering activities during the initial stages of the experiment but gradually allowed more intrusions toward the end of the study. For instance, a bicycle safety presentation in three of the classrooms during the scheduled observation time on the 10th day of the experiment reduced the opportunity for subjects in all four groups to participate in discussion. Also, it was the experimenters' subjective observation that the six participating teachers made a greater effort to encourage class participation during the early stages of the experiment than they did during the later stages, perhaps due to a decreasing need on the part of the teachers to impress the experimental observers.

Of interest is the finding that students in the group monitoring participation continued to participate in class at an average rate nearly three times that of students in the other three groups during the posttreatment phase of the experiment. The sustained higher level of participation for the group monitoring participation may have been the result of an interaction between the environment and the treatment procedure. Increased participation during the treatment phase may have brought the forces of social reinforcement from the teacher and



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other students into play, which in turn may have helped to maintain the participation behavior during the posttreatment phase.

More students who recorded participation behaviors enjoyed the task and felt it was helpful to them than did students who only recorded thoughts about participation. Of those monitoring participation, 91% (10 out of 11 responding to the item) indicated they liked doing the task, versus 64% (7 out of 11 responding to the item) of those monitoring nonparticipation. All 11 respondents in the group monitoring participation said they would be willing to repeat the task again in the future, while 4 out of 10 respondents in the group monitoring nonparticipation said they would not. The more negative attitude toward the task by those who recorded nonparticipation may have been due to their perception that the task did not help them to participate more. None of the students who recorded nonparticipation felt it helped a lot, and 2 of them felt it was of no value at all. On the other hand, one-third (4 out of 12) of those recording participation perceived it as helping a lot, and the remaining two-thirds felt it helped some to increase their rate of participation.

While the findings of this study support the efficacy of self-monitoring to increase student participation behavior, it is important to note a major limitation of the procedure for this purpose. As with all self-control techniques, it is essential that the cooperation of the person(s) involved be obtained. Students who refuse to self-monitor participation when asked may, in fact, covertly record instances of nonparticipation. This may in turn have the effect of reducing their participation behavior. Research is needed to determine the effect of

varying levels of motivation on self-monitoring outcome. Research is also needed on the effect of other subject variables that may effect the results of self-monitoring, such as subject-perceived locus of control, introversion versus extroversion rating, and interest in the material being learned.

References

Bandura, A., & Perloff, B. Relative efficacy of self-monitoring and externally imposed reinforcement systems. Journal of Personality and Social Psychology, 1967, 7, 111-116.

Broden, M., Hall, R. V., & Mitts, R. The effect of self-recording on the classroom behavior of two eighth-grade students. Journal of Applied Behavior Analysis, 1971, 4, 191-199.

Edwards, A. L. Experimental design in psychological research. New York: Holt, Rinehart, & Winston, 1968.

Gottman, J. M., & McFall, R. M. Self-monitoring in a program for potential high school dropouts: A time series analysis. Journal of Consulting and Clinical Psychology, 1972, 39, 273-281.

Johnson, S. M., & White, G. Self-observation as an agent of behavioral change. Behavior Therapy, 1971, 2, 488-497.

Kanfer, F. H. Self-monitoring: Methodological limitations and clinical applications. Journal of Consulting and Clinical Psychology, 1970, 35, 148-152.

Kanfer, F. H. The maintenance of behavior by self-generated stimuli and reinforcement. In A. Jacobs & L. B. Sachs (Eds.), The psychology of private events: Perspectives on covert response systems. New York: Academic Press, 1971.

Kunzelmann, H. D. (Ed.) Precision teaching. Seattle: Special Child Publications, 1970.

Mahoney, M. J., Moore, B. S., Wade, T. C., & Moura, N. G. M. Effects of continuous and intermittent self-monitoring on academic behavior. Journal of Consulting and Clinical Psychology, 1973, 41, 65-69.

McFall, R. M. Effects of self-monitoring on normal smoking behavior. Journal of Consulting and Clinical Psychology, 1970, 35, 135-142.

Watson, D., & Tharp, R. Self-directed behavior: Self-modification for personal adjustment. Monterey, California: Brooks/Cole, 1972.

TABLE 1

Trend Analysis of Participatory Behavior

Across Pre-, During-, and Posttreatment Observations

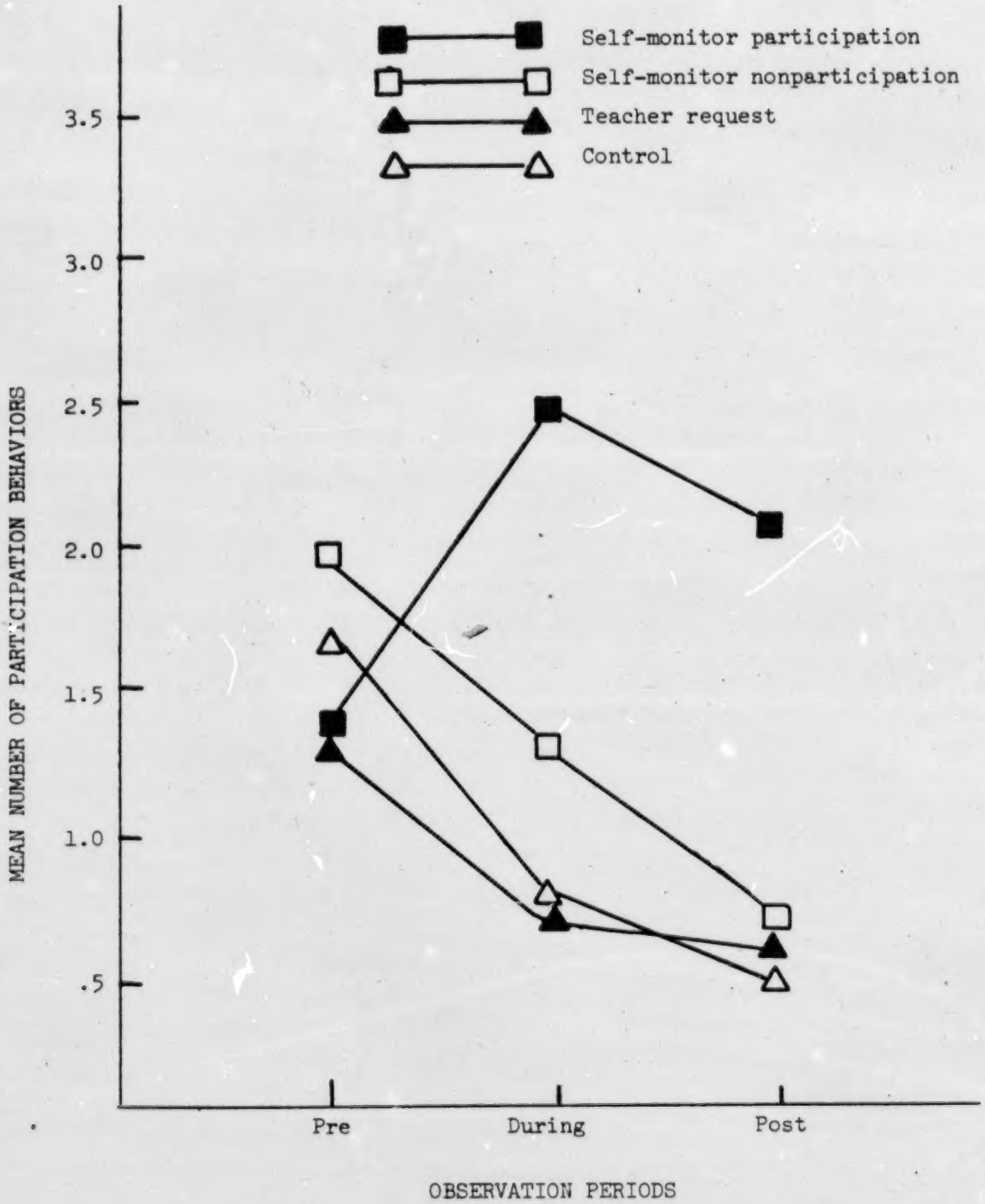
Source	SS	df	MS	F
Treatment (A)	24.888	3	8.296	3.469*
Sex of subject (B)	6.674	1	6.674	2.790
A x B	10.284	3	3.428	1.433
Error (a)	95.671	40	2.392	
Trials (C)	8.977	2	4.488	3.794*
A x C	20.627	6	3.438	2.906*
B x C	3.338	2	1.669	1.411
A x B x C	5.784	6	.964	.815
Error (b)	94.641	80	1.183	
Total	270.883	143	1.894	

*$p < .05$

Fig. 1

Mean Number of Participation Behaviors Across

Pre-, During-, and Posttreatment Observation Periods


Self-monitor participation
Self-monitor nonparticipation
Teacher request
Control
3.5
3.0
2.5
2.0
1.5
1.0
.5
MEAN NUMBER OF PARTICIPATION BEHAVIORS
Pre
During
Post
OBSERVATION PERIODS